

Central Intelligence Agency



Washington, D. C. 20505

DIRECTORATE OF INTELLIGENCE

09 APR 1985

MEMORANDUM FOR: (See Distribution)

FROM:

Director of Global Issues

SUBJECT:

Attack Helicopters: Strong Demand Abroad

1. The attached memorandum analyzes the growing export market for attack helicopters over the next 10 years. We expect nearly 1000 attack helicopters to be exported as many of the 33 current operators expand their inventories and at least 22 more countries acquire this capability. US prominence in this market is likely to decline and Third World military capabilities will be significantly enhanced through the procurement of anti-tank helicopters incorporating new technologies and advanced weapons systems.

2. This memorandum was prepared by International Security Issues Division, Office of Global Issues.

3. Your comments and suggestions are welcome and may be addressed to Chief, International Security Issues Division, Office of Global Issues,

Attachment:

Attack Helicopters: Strong Demand Abroad
GI M 85-10067, March 1985,

DIA, OSD Reviews Completed

[redacted]
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Washington, D.C. 20505

DIRECTORATE OF INTELLIGENCE

8 April 1985

Attack Helicopters: Strong Demand AbroadSummary

Third World and West European plans to create new or expand existing airborne anti-tank forces over the next decade have generated a strong demand for attack helicopters. Many of the 30 countries that have purchased anti-armor helicopters since 1974 plan to expand their inventories, while at least 22 more will acquire this capability by the mid-1990s. The proliferation of anti-tank helicopters will significantly improve the ground attack effectiveness of several Third World armed forces. As for the market itself, we believe the United States is likely to lose its position as the leading non-Communist exporter of anti-tank helicopters to West European firms that have built up a strong position in the helicopter export market. We also believe the Soviet Union will be pressed to offer its most advanced anti-tank helicopter -- the MI-28 -- in order to retain valued customers in the Middle East. [redacted]

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This memorandum was prepared by [redacted] Arms Transfer Branch, Office of Global Issues. Comments may be directed to [redacted] Chief, International Security Issues Division, [redacted]

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GI M 85-10067 [redacted]

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Attack Helicopters: Strong Export DemandBackground

The military helicopter export market experienced tremendous growth during the past ten years. Nearly 7,000 aircraft were exported, as global inventories expanded by 63 percent. The Soviet Union, France, and the United States were the leading suppliers of military helicopters. Most helicopters sold over the period were configured for traditional troop transport and observation missions, reflected in the large number of Soviet MI-8s, French Gazelles and Alouettes, and US UH-1 helicopters that were exported. Some of the largest helicopter customers were located in the Middle East where:

- o Iraq purchased 434 aircraft from the Soviet Union and Western Europe.
- o Iran received 278 helicopters from the US and over 200 from Italy.
- o Syria expanded its inventory with 288 Soviet and 60 French helicopters.

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The introduction of attack¹ helicopters into national inventories had a profound impact on the overall market and national military capabilities. In the early 1970s, only the United States and the Soviet Union operated attack helicopters, while West European militaries were just beginning to adapt light helicopters for anti-tank missions (see box). By 1984, however, 21 Third World, four Western, and five East European members of the Warsaw Pact had imported 922 attack helicopters accounting for 13 percent of the total market (see figure).

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¹For the purpose of this study, "attack, anti-armor, or anti-tank helicopter" defines a light or medium helicopter equipped with anti-tank guided missiles (ATGMs) whose primary mission is the destruction of armored ground targets. Therefore, assault helicopter gunships that are not armed with ATGMs, anti-submarine warfare, and naval attack helicopters are not included in this study.

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Attack Helicopters: Origins and Employment

The concept of the attack helicopter is relatively new to warfare, having grown from the experience of Vietnam. Originally armed helicopters were equipped with only a machine gun and rocket pods and were used to escort troop-carrying helicopters into contested areas. With the development of wire-guided missiles in the latter 1960's and early 1970's, the armed helicopter acquired a more specific role as a weapon against tanks, armored personnel carriers, and mobile armed anti-aircraft systems, such as the Soviet ZSU-23-4. Military planners view the helicopter as an ideal platform for close-in operations because it can maneuver near the target by remaining close to the ground and concealing itself behind terrain features such as trees and hills, allowing for an accurate delivery of weapons. [REDACTED]

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Most countries that use helicopters in a ground attack role purchase light helicopters--weighing less than 10,000 lbs--and add a weapons capability. Light-weight helicopters are popular because they are difficult to detect due to their smaller size and are generally more agile than medium- or heavy-lift helicopters. The French Gazelle, Alouette, and Ecureuil, West German BO-105, Italian A-109, and US Hughes 500 fit into this category. Most air-to-ground guided missile systems such as the AT 15, HOT, or TOW can easily be adapted for use with light helicopters. [REDACTED]

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[REDACTED] a Chilean arms firm hopes to capitalize on this market and is designing a "bolt-on" kit for converting standard helicopters into attack aircraft. [REDACTED]

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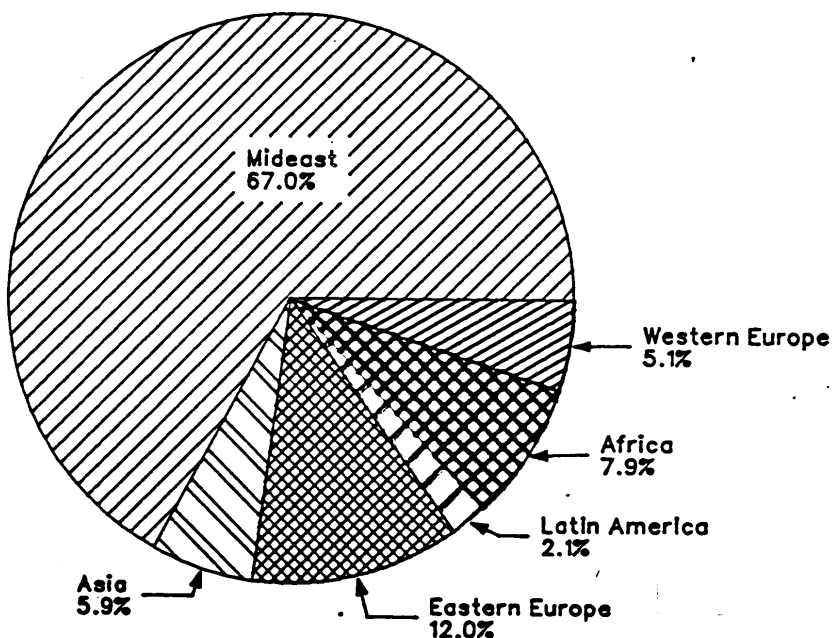
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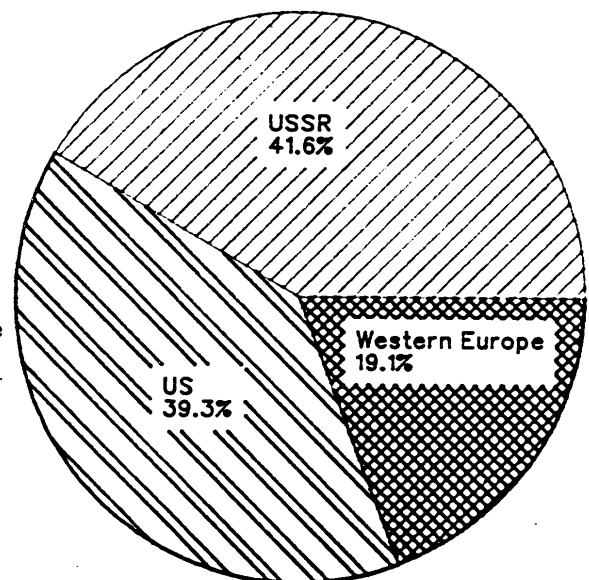
Attack Helicopter Export Market 1974-1983

Total: 922

Recipients



Suppliers



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[REDACTED]

Military planners have been attracted to attack helicopters because of:

- o The variety of weapons they can carry for close-in operations, such as machine guns, grenade launchers, rockets, anti-tank guided missiles, and more recently air-to-air missiles (see table).
- o Their ability to operate effectively at low-altitudes, enabling accurate delivery of ordnance against tanks, armored personnel carriers, and other ground targets.
- o The relatively moderate support and training facilities that accompany their purchase. [REDACTED]

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The Soviet Union has been the leading exporter of attack helicopters, having sold a total of 384 aircraft overseas. Exports of the MI-24 went to 17 countries, primarily allies in Eastern Europe and in the Third World such as Libya, Syria, Cuba, Angola, Ethiopia, and Vietnam. US firms delivered 362 Hughes 500s and AH-1s to South Korea, Japan, Spain, Iran, Israel and Kenya. West European manufacturers together held the smallest market share-- selling 176 attack helicopters-- but had very good market exposure, having delivered armed versions of the French Gazelle, West German BO-105, and British Lynx to 10 different countries in the Middle East and Western Europe. [REDACTED]

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Future Demand

We estimate a strong demand for attack helicopters during the next 10 years. Exports should somewhat surpass the level of 922 aircraft sold abroad in the 1974-83 period as many countries expand their inventories and others create an aerial anti-armor capability. Major factors driving expanded sales include:

- o The more than doubling of Third World tank and armored personnel carrier (APC) inventories. Since 1974, tank inventories have grown from 16,900 to 37,500 in 1984, and APC fleets have expanded from 17,500 to 44,000 vehicles.
- o The proven combat effectiveness of anti-tank helicopters in recent Third World conflicts. During the 1982 Lebanon conflict, for example, both Syria and Israel scored impressive successes. [REDACTED]

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A new dimension to the future market will be the availability of helicopters that are designed exclusively for anti-tank missions. The US AH-64 Apache, Italian A-129 Mangusta, and Soviet MI-28 Havoc have been designed for optimal anti-armor operation, exhibiting improved agility, speed,

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Table: Attack Helicopters

<u>System</u>	<u>Producer</u>	<u>Maximum Take-Off Weight Lbs.</u>	<u>Standard Armament</u>	<u>Operators</u>
AH-64 Apache	Hughes, US	17,650	30mm Chain Gun; 16 Hellfire ATGMs or 76 2.75 in. Rockets	US
500 Defender	Hughes, US	3,620	30mm Chain Gun; 2 7-Tube Rocket Launchers or 4 Tow ATGMs; or 2 Stinger AAMs	Israel, S. Korea, Kenya
AH-1 Cobra	Bell, US	10,000	2 7.62mm Mini-Gun or 2 40mm Grenade Launchers; or 4 Rocket Pods	US, Israel, Japan, S. Korea, Iran, Spain
MI-24 Hind	Mil, USSR	26,455	12.7mm Machine Gun; 128 57mm Rockets or 4 AT-2 or AT-6 ATGMs	All Warsaw Pact Members except Romania; S. Yemen, Syria Libya, Cuba, Peru, Angola Ethiopia, Mozambique Afghanistan, Nicaragua, Vietnam, Iraq
Lynx MK.1	Westland, UK	10,000	2 7.62mm Mini- Guns; 80mm, 68 mm, or 2.75 in. Rockets; or Tow or Hot ATGMs	UK, Norway
Gazelle	Aerospatiale, France	4,190	2 7.62mm Machineguns; or 4 Hot ATGMs; or Rocket Pods	France, UK, Ireland Egypt, UAE, Syria, Iraq, Lebanon, Morocco, Kuwait
Dauphin 2	Aerospatiale, France	8,988	44 SNEB 68mm Rockets or 8 Hot ATGMs	--

Table: Attack Helicopters (Continued)

<u>System</u>	<u>Producer</u>	<u>Maximum Take-Off Weight Lbs.</u>	<u>Standard Armament</u>	<u>Operators</u>
Ecueril 2	Aerospatiale, France	4,300	24 68mm Rockets; 2 7.62mm machine- guns; or 4 ATGMs	--
BO-105	Messersch- mitt-Bolkow- Blohm, West Germany	5,290	6 Hot ATGMs	West Germany, Spain
A-129 Mongoose	Agusta, Italy	8,060	Machinegun Pods or 2 7-tube Rocket Pods or 8 Tow or Hellfire ATGMs	Italy
A-109	Agusta, Italy	5,730	8 Tow ATGMs	--

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firepower, and survivability over earlier models. The higher cost of these aircraft, however, ranging from \$7-12 million each², will limit their export potential primarily to the Middle East. Other operators will look to buy less expensive light utility helicopters, such as the BO-105, Hughes 500, Ecureuil, Gazelle, and A-109 configured with anti-armor weapons. [REDACTED]

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Several countries have already taken steps to expand their existing attack helicopter inventories:

- o We believe both Iran and Iraq will make large purchases of attack helicopters to build effective heliborne anti-tank units for future conflict. Iraq has already shown an interest in West European helicopters to replace war losses and we expect their inventory to expand by 120 aircraft in order to surpass the strength of Iran's inventory. Iran will refurbish some of their AH-1s and may purchase around 60 helicopters to replace irreparable aircraft.
- o The Israeli Air Force is evaluating the US AH-64 and AH-1T Cobra and will purchase 12 of one or the other in the near future, with a follow-on purchase of 12 to 24 aircraft, according to the USDAO in Tel Aviv. Whichever helicopter is chosen will be armed with Hellfire anti-tank weapons.
- o The Syrian Air Force recently purchased 15 Gazelles to replace losses in the 1982 war, [REDACTED] who also reports Syrian interest in acquiring 20 Dauphin II attack helicopters with night fighting capability.
- o The Spanish Army will decide soon on the purchase of 30 anti-tank helicopters to expand their current force of 4 AH-1s and 28 BO-105s.
- o The Egyptian Air Force has placed an order for 24 additional Gazelle anti-tank helicopters, some of which will be manufactured domestically. [REDACTED]

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Several countries that do not currently possess a heliborne attack capability have recently received aircraft or plan to purchase aircraft over the course of the next decade. For example:

- o Nicaragua recently received 12 MI-24 Hinds which we believe will be used against insurgent forces.

²Exact price data for the MI-28 are not available.

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- o The Saudi Arabian Land Forces intends to buy 21 helicopter gunships by the early 1990s as one phase of a major modernization of Saudi helicopter forces,

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- o The Jordanian Air Force has requested 24 AH-1 Cobra gunships from the US, according to US officials.

- o Pakistan also has purchased Cobras from the US, and will begin receiving their 20 aircraft this year.

- o Sweden recently decided to purchase 20 anti-tank versions of the BO-105 from West Germany,

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- o Denmark, the Netherlands, Belgium, and Switzerland hope to establish attack helicopter units of between 12 to 28 aircraft and are evaluating the Lynx-3, Hughes 500 MD, and BO-105 for possible purchase, according to press reports.

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In addition to these countries, we believe several others will buy anti-armor helicopters. Within NATO, Greece, Turkey, and Canada are likely to establish light army aviation units. Potential Third World recipients include India, China, South Africa,³ Argentina, Yugoslavia, and possibly Indonesia, Thailand, Taiwan, Nigeria, and the Philippines. All of these countries field a large, professional military, perceive an imminent threat, or are in the process of a major modernization of their helicopter inventory. We believe most of these countries will create relatively small attack helicopter units of between 12 and 24 aircraft, but some, such as China and India, may place significantly larger orders for between 50-70 aircraft.

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Impact on the Helicopter Export Market

The growing demand for attack helicopters will be a major factor contributing to the expanding military helicopter export market over the next 10 years. Anti-armor helicopter sales will account for most of the 15 percent growth we estimate for the export market of approximately 8000 aircraft--the only

³The UN embargo on arms sales to South Africa makes a direct purchase of attack helicopters from a foreign supplier unlikely. The Air Force will probably purchase components and fit ATGMS on existing utility helicopters.

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major military equipment sector to expand by the mid-1990s.⁴ This expansion will result not only from the sale of attack helicopters, but also from the need to purchase observation helicopters to work with the attack units. Anti-tank helicopters normally operate in teams with observation helicopters that reconnoiter the battle area and function as a command and control link between ground troops and attack helicopter pilots. Subsequently, militaries often purchase nearly as many scout helicopters as attack aircraft. For example, [redacted] will need to purchase 15 observation helicopters to operate with their 21 gunships. [redacted]

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Suppliers

We believe that West European helicopter manufacturers will collectively dominate the export market for attack helicopters. European firms already enjoy broad exposure in the international market and offer a wide variety of aircraft, ranging from attack versions of the BO-105, Gazelle, Ecureuil, Dauphin, Lynx, and A-109, to the more advanced A-129 and the PAH-2/HAC, which France and West Germany plan to develop and produce jointly. West European producers are likely to benefit from Iraqi intentions to expand significantly its attack helicopter inventory. Iraq is dissatisfied with the Soviet MI-24 because of its poor maneuverability and maintenance problems, and has already expressed an interest in buying European aircraft. West European aerospace manufacturers are also well placed to supply the weapon systems needed to configure light helicopters for attack missions. The Euromissile consortium will introduce the HOT-2 with an improved warhead by 1987 to replace the current HOT anti-tank guided missile, and is developing a third-generation missile to replace HOT-2 in the early 1990s. [redacted]

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Over the course of the next decade the Soviet Union will probably retain sales levels comparable to the past 10 years, but will be pressed to offer more advanced aircraft to retain valued clients. Soviet efforts to expand exports will be hampered by the poor performance of the Mi-24 in the Iran-Iraq war. We expect that the Soviets will be forced to offer the more advanced Mi-28 to countries such as Iraq and Syria, for example, that have expressed an interest in turning to Western suppliers. Furthermore, most of the countries in Southeast Asia, such as the Philippines, Malaysia, and Thailand, that

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will acquire anti-tank helicopters have not previously purchased Soviet aircraft and are unlikely to do so in the future. Finally, heliborne attack forces in SubSaharan Africa -- where the Soviet Union is the leading helicopter supplier -- will probably not expand appreciably in our opinion, because most countries field generally small helicopter fleets, see a greater need for transport and utility aircraft, and do not envisage large-scale armor warfare. [REDACTED]

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Implications for the US

The United States is likely to lose its status as the leading Western exporter of attack helicopters over the next decade primarily because of the loss of a major recipient-- Iran. Since 1974, for example, Iran alone received 54 percent of all US attack helicopter exports. US industry representatives believe they will make comparable sales to the PRC, but China's cautious policy toward integrating US equipment into its inventory will probably limit orders. US manufacturers will probably retain established customers such as Israel, South Korea and Japan, and can expect to make sales to new operators--Thailand, Turkey, and Saudi Arabia--that also maintain close security assistance relationships with Washington. [REDACTED]

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The proliferation of attack helicopters incorporating new technologies and the continuously evolving role of the armed attack helicopter in modern warfare will considerably enhance the capabilities of Third World militaries. [REDACTED]

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[REDACTED] for example, the Syrian Air Force is particularly interested in the French Dauphin II because of its night fighting capability. Night vision equipment will eliminate the need for flares or other illuminating devices for night-time operation, thereby giving attacking units greater protection and flexibility. Other technologies, such as the development of mast-mounted sights, make attack helicopters both more lethal and less susceptible to attack by permitting fire from concealed positions. We believe anti-tank helicopters will increasingly be used in non-traditional roles as well. Many attack helicopters can be configured with air-to-air missiles enabling them to destroy enemy helicopters and low-flying fixed-wing attack aircraft. Other Third World militaries may see a need to use anti-tank helicopters to destroy insurgent camps or weapons storage facilities. [REDACTED]

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